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10/538,717	06/13/2005	Yong-Keun Kim	P5093/TAN	7314

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EXAMINER	
DARNER, CHRISTOPHER J	
ART UNIT	PAPER NUMBER
3633	
MAIL DATE	DELIVERY MODE
02/21/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/538,717	KIM, YONG-KEUN	
	Examiner	Art Unit	
	CHRISTOPHER J. DARNER	4112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 January 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *23-38* is/are pending in the application.

4a) Of the above claim(s) *33-38* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06/13/2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment.

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the scale (48) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim 23, 24, 25, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (U.S. Patent # 6,860,672) in view of Kunoki (U.S Patent # 5,127,763).

With respect to claim 23, Kim teaches a first and second reinforcing bar (1) including a plurality of semi-annular ribs (13) and longitudinal ribs (12) in Figure 1, reinforcing bar (1).

Kim does not teach a base sleeve forming a semi-cylindrical shaped dual cavity with a lateral opening along with axial direction for seating the first and second reinforcing bar laid in butt. Kunoki teaches a base sleeve (joint) forming a semi-cylindrical shaped dual cavity with a lateral opening along with axial direction for seating the first and second reinforcing bar laid in butt in Figure 2A. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kim to include a base sleeve forming a semi-cylindrical shaped dual cavity with a lateral

opening along with axial direction for seating the first and second reinforcing bar laid in butt as taught by Kunoki in order to increase the shear strength of the joint.

Kim discloses an inner surface of said base sleeve (2) forming a plurality of semi-annular grooves for fitting the semi-annular ribs and semi-cylindrical ridges for seating the first and second reinforcing bar at column 8, lines 46-52. Kim discloses a pair of locking parts (24) along both edges of lateral walls at column 4, lines 18-20.

Kim discloses the claimed invention except for the cover sleeve. Rather, Kim discloses a cylindrical sleeve surrounding the entire bar. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to separate the base sleeve and the cover sleeve instead of one integral cylindrical sleeve, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. Nerwin v. Erlichman, 168 USPQ 177, 179.

Kim teaches a wedge (4) having gradually decreasing thickness along with the axial direction, and a pair of locking sections along with both edges for firmly coupling the first and second reinforcing bar as axially slide advancing into said base sleeve at column 8, lines 59-62.

With respect to claim 24, Kim teaches a reinforcing bar coupler wherein said locking parts of the base sleeve are integrally formed a right-triangle shaped edge with inwardly slanted surfaces (27) at column 4, lines 21-24. Kim teaches said locking sections of the wedge (41) are integrally formed a right-triangle shape groove with outwardly slanted surfaces, both slanted surfaces having same slope for smoothly

mating each other and press-bonding the first and second reinforcing bars at column 4, lines 59-63.

With respect to claim 25, Kim teaches a reinforcing bar coupler wherein intervals of the semi-annular grooves and semi-cylindrical ridges (21) of said base sleeve have same that of the semi-annular ribs (13) of the first and second reinforcing bars, and outer surface of said base sleeve formed multiple of semi-annular ribs and longitudinal ribs same shape as the semi-annular ribs and longitudinal ribs of the first and second reinforcing bars at column 3, lines 40-49.

With respect to claim 26, Kim teaches a reinforcing bar coupler wherein an overall length of said base sleeve (2) is a half interval of the semi-annular ribs shorter than that of said cover sleeve at column 4, lines 30-33 and lines 39-41. Kim teaches a set of serrations formed at one end portion of the flat top surface (34) of the cover sleeve at column 4, lines 46-47. Kim teaches said wedge (4) forming a flat bottom surface (41) for contacting with said flat top surface (34) of the cover sleeve at column 4, lines 59-61. Kim teaches a set of serrations formed at one end portion of the flat bottom surface (42) of said wedge at column 4, lines 63-65. Kim teaches more than one groove (45) formed on said flat bottom surface along with axial direction, and a scale formed at outer surface at column 5, lines 4-8.

With respect to claim 27, Kim teaches a reinforcing bar coupler wherein an interval of the semi-annular grooves and semi-cylindrical ridges (21) of the base sleeve and the cover sleeve is a half that of the semi-annular ribs (13) of the reinforcing bars at column 3, lines 53-58.

3. Claims 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (U.S. Patent # 6,860,672) in view of Kunoki as applied to claim 23 above, and further in view of Harris (U.S. Patent # 3,701,555).

Kunoki teaches a reinforcing bar coupler wherein the base sleeve and the wedge are produced through elastic process with a uniform thickness of steel plate at column 5, lines 50-55.

Kim in view of Kunoki does not teach said locking parts of the base sleeve are bent to have a clearance slightly less than a thickness of said locking sections of the wedge for tightly press-fitting to the clearance. Harris teaches said locking parts of the base sleeve (21) are bent to have a clearance (24) slightly less than a thickness of said locking sections of the wedge for tightly press-fitting to the clearance at column 2, lines 30-39. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kim to include said locking parts of the base sleeve are bent to have a clearance slightly less than a thickness of said locking sections of the wedge for tightly press-fitting to the clearance as taught by Harris in order to secure elongate members to one another in axially aligned relationship.

Kim in view of Kunoki does not teach said locking sections of the wedge formed laterally bent-up and gradually decreased its height along with the axial direction, a striking head formed at the higher end and a scale formed on the outer surface. Harris teaches said locking sections of the wedge formed laterally bent-up (25,26) and gradually decreased its height along with the axial direction, a striking head formed at

the higher end and a scale formed on the outer surface at column 2, lines 40-45 and column 3, lines 50-58. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kim to include said locking parts of the base sleeve are bent to have a clearance slightly less than a thickness of said locking sections of the wedge for tightly press-fitting to the clearance as taught by Harris in order to secure elongate members to one another in axially aligned relationship.

4. Claims 29, 30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (U.S. Patent # 3,701,555) in view of Kunoki (U.S Patent # 5,127,763) and further in view of Kim (U.S. Patent # 6,860,672).

With respect to claim 29, Harris teaches a first and second reinforcing bar (B1, B2) including a plurality of semi-annular ribs and longitudinal ribs in Figure 1, B1 and B2.

Harris does not teach a base sleeve forming a semi-cylindrical shaped dual cavity with a lateral opening along with axial direction for seating the first and second reinforcing bar laid in butt. Kunoki teaches a base sleeve (joint) forming a semi-cylindrical shaped dual cavity with a lateral opening along with axial direction for seating the first and second reinforcing bar laid in butt in Figure 2A. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kim to include a base sleeve forming a semi-cylindrical shaped dual cavity with a lateral opening along with axial direction for seating the first and second reinforcing bar laid in butt as taught by Kunoki in order to increase the shear strength of the joint.

Harris teaches an inner surface of said base sleeve forming a plurality of semi-annular grooves for fitting the semi-annular ribs and semi-cylindrical ridges for seating the first and second reinforcing bar at column 5, lines 16-22. Harris discloses a pair of locking parts (51,52) along both edges of lateral walls at column 4, lines 30-39.

Harris teaches a wedge (25,26) having gradually decreasing thickness along with the axial direction, and a pair of locking sections along with both edges for firmly coupling the first and second reinforcing bar as axially slide advancing into said base sleeve at column 6, lines 1-11.

Harris in view of Kunoki does not teach the wedge forms a flat bottom surface with a serration, a chamfered edge at a thinner front end and a striking head at the thicker rear end for striking to insert. Kim teaches the wedge forms a flat bottom surface with a serration, a chamfered edge at a thinner front end and a striking head at the thicker rear end for striking to insert at column 4, lines 59-67 and column 5, lines 1-2. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Harris in view Kunoki to include the wedge forms a flat bottom surface with a serration, a chamfered edge at a thinner front end and a striking head at the thicker rear end for striking to insert as taught by Kim in order to tensile strength of the wedge.

With respect to claim 30, Harris does not teach a reinforcing bar coupler wherein the base sleeve and the wedge are produced through elastic process with a uniform thickness of steel plate. Kunoki teaches a reinforcing bar coupler wherein the base sleeve and the wedge are produced through elastic process with a uniform thickness of

steel plate at column 5, lines 50-55. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Harris to include a reinforcing bar coupler wherein the base sleeve and the wedge are produced through elastic process with a uniform thickness of steel plate as taught by Kunoki in order to provide durable and reliable use.

Harris teaches said locking parts of the base sleeve are bent to have a clearance slightly less than a thickness of said locking sections of the wedge for tightly press-fitting to the clearance at column 2, lines 30-32.

Harris teaches said locking sections of the wedge formed laterally bent-up (25,26) and gradually decreased its height along with the axial direction, a striking head formed at the higher end and a scale formed on the outer surface at column 2, lines 37-45.

With respect to claim 32, Harris teaches a reinforcing bar coupler wherein said locking parts of the base sleeve are integrally formed a right-triangle shaped edge with outwardly slanted surfaces at both edges of the lateral walls at column 2, lines 32-35. Harris teaches said locking sections of the wedge are integrally formed a U-shaped hook with inwardly slanted surfaces, both slanted surfaces have in same slope for smoothly mating each other and firmly press bonding the first and second reinforcing bars, a bottom surface of the wedge formed a serration, and a scale formed on the outer surface at column 2, lines 45-53.

5. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (U.S. Patent # 3,701,555) in view of Kunoki as applied to claim 29 above, and further in view of Kim (U.S. Patent # 6,860,672).

With respect to claim 31, Harris in view of Kunoki does not teach a reinforcing bar coupler wherein the wedge forms a flat bottom surface with a serration, a chamfered edge at a thinner front end and a striking head at the thicker rear end for striking to insert, and a scale on the outer surface. Kim discloses a reinforcing bar coupler wherein the wedge forms a flat bottom surface with a serration, a chamfered edge at a thinner front end and a striking head at the thicker rear end for striking to insert, and a scale on the outer surface at column 4, lines 62-67 and column 5, lines 1-2. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Harris in view of Kunoki to include a reinforcing bar coupler wherein the wedge forms a flat bottom surface with a serration, a chamfered edge at a thinner front end and a striking head at the thicker rear end for striking to insert, and a scale on the outer surface as taught by Harris in order to prevent the wedge from sliding between the sleeve.

Response to Arguments

6. Applicant's arguments filed January 7, 2008 have been fully considered but they are not persuasive. Kim, Kunoki, and Harris teach all of the limitations of claim's 23-32.

7. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Howlett (U.S. Patent # 4,146,951) teaches a method and apparatus for tensioning concrete reinforcing tendons, Holdsworth (U.S. Patent # 5,909,980) teaches a tubular coupler for concrete reinforcing bars, Baynes et al. (U.S. Patent # 5,797,696) teaches snap connection system, Harris (U.S. Patent # 3,480,309) teaches clamp, West (U.S. Patent # 2,441,304) teaches cable clamp, Era (U.S. Patent # 4,695,178) teaches joint reinforcing bar employed in concrete construction, Gregel et al. (U.S. Patent # 7,118,299B2) teaches reinforcing bar connection and method, and Kunoki (U.S. Patent # 4,997,306) teaches joint for reinforcing bars.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher J. Darner whose telephone number is 571-270-3658. The examiner can normally be reached on Monday thru Friday 8AM to 4:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David V. Bruce can be reached on 571-272-2487. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

cd

/Brian E. Glessner/

Supervisory Patent Examiner, Art Unit 3633